



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Handwritten signature

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,295	04/18/2001	Marcos C. Tzannes	081513-59	6894

181 7590 07/22/2004

MILES & STOCKBRIDGE PC
1751 PINNACLE DRIVE
SUITE 500
MCLEAN, VA 22102-3833

EXAMINER

AHN, SAM K

ART UNIT PAPER NUMBER

2634

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,295

Applicant(s)

TZANNES, MARCOS C.

Examiner

Sam K. Ahn

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-9,11-15,17-21,23-26,28-32,34-38 and 40-44 is/are rejected.
- 7) ☒ Claim(s) 4,10,16,22,27,33,39 and 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11162001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on 11/16/01 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. A copy of the listed reference of "Spectrum Management for Loop Transmission Systems" was not furnished.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *the limitation of equally applying the average margin to a portion of subchannels* must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes

made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3,5-9,11-15,17-21,23-26,28-32,34-38 and 40-44 are rejected under 35

U.S.C. 102(e) as being anticipated by McHale et al. (McHale).

Regarding claims 1,7,19,23,24 and 42, McHale discloses a method and apparatus of multicarrier modulation communication system over a plurality of subchannels (see Fig.1) comprising, a plurality of subchannels, and a plurality of margins (see Fig.3 and note col.6, line 11 – col.7, line 28, and also note Table 1 in col.5). McHale teaches plurality of subchannels or sub-bands where the

algorithm processes for each sub-band and determine whether all the sub-bands have been computed. (note col.7, lines 23-28) McHale further teaches plurality of margins, wherein each profile information including margin is stored for each sub-band (in step 80, see Fig.3), wherein one margin is assigned (in step 80) for each sub-band when the margin computed (in step 76) is sufficient (in step 78). And McHale teaches storing the profile information in a profile table storing in registers. (note col.3, lines 42-55)

Through the bit error rate (BER) test (in step 68), the system determines the margin for each sub-band, which would have its corresponding margin.

Therefore, depending on the line condition, the BER test would determine its respective margin resulting in various margins.

Regarding claims 13 and 36 McHale further teaches wherein at least one margin is assigned based on the physical parameters of the wire line (note col.3, lines 55-59 and col.5, line 58 - col.6, line 10).

Regarding claim 30, McHale further teaches training two or more bands simultaneously. (note col.6, lines 25-29) Therefore, in step 64, the system selects a first number of subchannels, assigning a first margin (in step 80). Since not all subchannels have been trained, the system determines further training (determined in step 92), where a second number of subchannels are selected (in step 64), and again assigning a second margin to the second number of

subchannels (in step 80) by repeatedly going through the algorithm until all subchannels have been trained.

Regarding claims 2,8,14,20,25,31,37 and 43, McHale teaches all subject matter claimed, as applied to claim 1,7,13,19,23,24,30,36 or 42. McHale further teaches wherein the plurality of margins are based on at least one of changes in the levels of a crosstalk, impulse noise, temperature changes, wire line length, radio frequency interference, a bit error rate, a signal to noise ratio, a seasonal change, statistical information, time information, day information and data rate information. (note col.3, line 42 – col.4, line 4 and col.5, line 58 - col.6, line 10)

Regarding claims 3,9,15,21,26,32,38 and 44, McHale teaches all subject matter claimed, as applied to claim 1,7,13,19,23,24,30,36 or 42. McHale further teaches wherein the plurality of margins are at least one of an average margin and a subchannel specific margin. (see Fig.3 wherein specific margin for each subchannel is computed, assigned and stored)

Regarding claims 5,11,17,28,34 and 40, McHale teaches all subject matter claimed, as applied to claim 1,7,13,19,23,24,30,36 or 42. McHale further teaches a margin determiner that determines at least one margin (see step 76 in Fig.3 operated within control unit of 18 in Fig.1).

Regarding claims 6,12,18,29,35 and 41, McHale teaches all subject matter claimed, as applied to claim 1,7,13,19,23,24,30,36 or 42. McHale further teaches a margin storage device that stores at least one margin (see step 80 in Fig.3 operated within control unit of 18 in Fig.1, and note col.3, lines 42-44).

Allowable Subject Matter

4. Claims 4,10,16,22,27,33,39 and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter:
Present application discloses a dsl system using a multi-carrier modulating method comprising plurality of channels wherein each channel has its own margin. Closest prior art, McHale, teaches all subject matter claimed. McHale teaches applying margin after determining that the margin is sufficient (in step 78 of Fig.3). Then, the subchannels are trained accordingly. However, McHale does not explicitly teach wherein during the training of each channel, an average margin of certain number of channels are applied to the number of channels. Therefore, McHale, solely or in combination does not teach or suggest the limitation claimed.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Van Kerckhove and Kao et al. teach DSL system comprising multicarrier determining margins for each carrier.

Tate et al. teach wherein margins are set according to the loop length.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Jay Patel**, can be reached at **(703) 308-7728**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

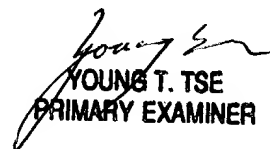
or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn
7/14/04


YOUNG T. TSE
PRIMARY EXAMINER